

Energy and Climate Change

The Total Carbon Footprint (CO₂ emission in the last 12 months, in metric tons) in Tanta University

CO₂ (electricity)

$$\begin{aligned} &= \frac{\text{electricity usage per year (kWh)}}{1000} \times 0.84 \\ &= \frac{2431520 \text{ kWh}}{1000} \times 0.84 \\ &= 2042.47 \text{ metric tons} \end{aligned}$$

CO₂ (bus)

$$\begin{aligned} &= \frac{\text{number of shuttle bus in your university} \times \text{total trips for shuttle bus service each day} \times \text{approximate travel distance of vehicle each day inside campus only (KM)} \times 240}{100} \times 0.01 \\ &= \frac{46 \times 46 \times 3 \times 240}{100} \times 0.01 \\ &= 152.35 \text{ metric tons} \end{aligned}$$

CO₂ (cars)

$$\begin{aligned} &= \frac{\text{number of cars entering your university} \times 2 \times \text{approximate travel distance of vehicle each day inside campus only (KM)} \times 240}{100} \times 0.02 \\ &= \frac{1000 \times 2 \times 3 \times 240}{100} \times 0.02 \\ &= 288 \text{ metric tons} \end{aligned}$$

CO₂ (motorcycle)

$$\begin{aligned} &= \frac{\text{number of motorcycle entering your university} \times 2 \times \text{approximate travel distance of vehicle each day inside campus only (KM)} \times 240}{100} \times 0.01 \\ &= \frac{300 \times 2 \times 3 \times 240}{100} \times 0.01 \\ &= 43.2 \text{ metric tons} \end{aligned}$$

CO₂ (total)

$$\begin{aligned} &= 2042.47 + 152.35 + 288 + 43.2 \\ &= 2526 \text{ metric tons} \end{aligned}$$

Carbon footprint in 2022 = 2526 metric tons

Total Carbon Footprint of Tanta university for year 2022/2023